4. DESCRIPTION OF PROJECT AREA AND IMPACTS

This chapter describes the setting of the project and the environmental consequences{xe "environmental impacts"} of the Preferred Alternative. The information presented here follows the guidelines of the Federal Highway Administration's *Technical Advisory 6640.8A* and INDOT's *Procedural Manual for Preparing Environmental Studies*.

4.1 Land Use Impacts

Existing land use along the corridor is mixed. There is currently institutional (Airport), residential, commercial, industrial, and parkland along the corridor.

4.2 Farmland Protection Policy Act (FPPA) and Impacts on Agricultural Lands

There are no prime agricultural soils in the study area. As is required by the Farmland Protection Policy Act, the NRCS has been contacted and a Form AD-1006 (which evaluates farmland impacts) has been completed (Appendix A). Since this project received a total point value of less than 160, it will receive no further consideration for farmland protection. No alternatives other than those already discussed in this document will be considered without a re-evaluation of the project's potential impacts upon farmland. The project will not have a significant impact to farmland. The NRCS indicated that there is no prime farmland or farmland of statewide importance affected by the project (see letter and questionnaire dated January 7, 2002 in Appendix A).

4.3 Social Impacts

4.3.1 Public Institutions – Recreational, Educational, Health, Religious

Krannert Park is located on the west side of I-465 between US 40 and US 36. Facilities at the park include an indoor pool, outdoor pool, weight room, tennis courts, ball fields, shelters, pond, children's playground, volleyball courts, family center, and a conference room. None of the facilities at the park will be affected by the project. The future right-of-way in this area will not change and no right-of-way will be needed from the park.

A private ballfield and part of a pond at the Plumbers and Steamfitters Union Local 440 will likely be taken for I-70/I-465 interchange ramps.

Ben Davis Junior High School is located adjacent to the west side of I-465 between US 40 and US 36. The school has an enrollment of approximately 1,100. The track for the school is about 30 feet from the existing right-of-way fence. A backstop for throwing discus and shot-put is about five feet away from the right-of-way fence. The future right-of-way in this area will not change and the discus/shot-put backstop and the track will not be affected.

The Rehabilitation Hospital of Indiana is located on the west side of I-465 north of the 38th Street interchange. A small piece of frontage may be taken, but no structures would be directly affected by the project.

Two churches/religious facilities are located along I-465. The Lakeview Christian Center is located near the northeast quadrant of the I-465 and US 36 interchange. The ramps for the interchange

would be reconstructed and would be located further from the church. The Church of Christ is located on the west side of I-465 south of the 10th Street interchange. No right-of-way acquisition is expected from either of the facilities.

4.3.2 Considerations Related to Pedestrians and Bicyclists

Because I-465 is a full control of access facility no pedestrian or bicycle facilities will be provided along the route.

The State of Indiana Department of Natural Resources has identified a number of on-road bike routes in the state and publishes maps showing routes. None of these are located in the project area.

Bicycle routes that cross I-465 will be accommodated. No current Marion County Greenway Trails cross I-465. However, proposed Greenway Trails would cross I-465 at Big Eagle Creek and at the former B & O rail line that is a little south of Big Eagle Creek. Primary bike routes cross I-465 at 34th Street, 10th Street, Minnesota Street, and Hanna Avenue. Secondary bike routes cross I-465 at 46th Street, 21st Street, and Mooresville Road. Primary bicycle routes will be accommodated with bike lanes on structures. Secondary routes will be accommodated by sidewalks or width for bike lanes and sidewalks.

4.3.3 Emergency Services

Improvements to the roadway will decrease travel times for emergency vehicles{xe "emergency vehicles"}, especially the Wayne Township Fire Department station located on the west of I-465 between US 36 and 10th Street.

4.4 Relocation and Right-of-Way Impacts

4.4.1 Relocation Impacts

Fourteen single family residential relocations are anticipated due to this project. Adequate comparable, decent, safe, and sanitary residential property is available in the local market to relocate households satisfactorily. No significant negative impacts are anticipated on any neighborhood, or public facilities.

The relocation services required by this project are neither large nor complex. Therefore, specific coordination with local public officials is not necessary. The acquisition and relocation program required by this project will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Title IV of the Civil Rights Act of 1968, and 49 CFR 24. No person displaced by this project would be required to move from a displacement dwelling unless comparable replacement housing{xe "housing"} is available to that person. Required actions would be taken to ensure fair and equitable treatment of persons displaced as a result of this project up to and including providing replacement housing of last resort as defined in 49 CFR Part 24.404. Relocation resources for this project are available to all relocatees without discrimination.

4.4.2 Right-of-Way Impacts

Acquisition of 86.3 acres of right-of-way is anticipated for this project. About 5.0 acres of multi-family residential, 26.1 acres of single-family residential, 2.0 acres of commercial, 12.7 acres of industrial, and 40.5 acres of institutional land (mainly airport property) will be needed for the project.

4.5 Environmental Justice

This project has been developed in compliance with Executive Order 12898, *Federal Actions*{xe "*Federal Actions*"} *to Address Environmental Justice*{xe "*Environmental Justice*"} *in Minority Populations and Low-Income Populations*, which is designed to ensure that low-income and minority populations do not bear a disproportionate burden of impacts from federally-sponsored projects. It is FHWA's longstanding policy to actively ensure non-discrimination in federally funded activities. Similarly, the Indiana Department of Transportation is committed to prevent discriminatory effects of its projects by actively administering its programs, policies and activities to ensure that social impacts to communities and people are recognized early and continually throughout the transportation decision-making process.

There are 13 census tracts within the study area. All but two had a poverty rate below the Marion County average of 12.1 percent. None had a poverty rate higher than 14.1 percent. The study area as a whole has a poverty rate of 7.6 percent, which is 4.5 percent lower than the county average (Table 4-1).

Table 4-1
Poverty Rate Data (1989)

Area	Total population	Below poverty	% Below poverty
Marion Co.	780,649	94,131	12.1%
Tract			
3101.09	7,209	237	3.3%
3103.05	3,197	177	5.5%
3401.06	4,874	209	4.3%
3401.07	3,793	170	4.5%
3401.08	3,072	235	7.6%
3409	7,185	400	5.6%
3419.01	5,490	772	14.1%
3419.02	3,285	69	2.1%
3421.01	3,512	333	9.5%
3421.02	0	0	0.0%
3422	5,951	815	13.7%
3701	2,454	265	10.8%
3702.01	4,976	479	9.6%

Study Area	54,998	4,161	7.6%

Source: US Census Bureau

All but three of the 13 census tracts in the study area have a minority population that is below the Marion County average of 29.5 percent. The study area as a whole has a minority population of 24.5 percent, which is five percent lower than the county average (Table 4-2).

Table 4-2
Minority Population Data (2000)

Area	Total population	Total one race	White	%	Black	%	American Indian and Alaska Native	%	Asian	%	Native Hawaiian and Other Pacific Islander	%	Some other race	%	Two or more races	%	Hispanic or Latino (of any race)	%	Non-White or two or more races	%
Marion Co.	860,454	846,335	606,502	70.5%	207,964	24.2%	2,181	0.3%	12,325	1.4%	365	0.04%	16,998	2.0%	14,119	1.6%	33,290	3.9%	253,952	29.5%
Tract																				
3101.09	6,233	6,100	4,487	72.0%	1,276	20.5%	14	0.2%	238	3.8%	3	0.05%	82	1.3%	133	2.1%	170	2.7%	1,746	28.0%
3103.05	5,239	5,075	1,959	37.4%	2,568	49.0%	10	0.2%	141	2.7%	3	0.06%	394	7.5%	164	3.1%	695	13.3%	3,280	62.6%
3401.06	7,197	7,050	5,934	82.5%	855	11.9%	14	0.2%	157	2.2%	8	0.11%	82	1.1%	147	2.0%	166	2.3%	1,263	17.5%
3401.07	5,425	5,313	3,852	71.0%	1,139	21.0%	13	0.2%	198	3.6%	5	0.09%	106	2.0%	112	2.1%	209	3.9%	1,573	29.0%
3401.08	3,823	3,680	1,580	41.3%	1,342	35.1%	19	0.5%	73	1.9%	3	0.08%	663	17.3%	143	3.7%	1,130	29.6%	2,243	58.7%
3409	9,287	9,058	7,557	81.4%	1,008	10.9%	17	0.2%	342	3.7%	1	0.01%	133	1.4%	229	2.5%	232	2.5%	1,730	18.6%
3419.01	6,945	6,795	4,589	66.1%	1,614	23.2%	28	0.4%	216	3.1%	6	0.09%	342	4.9%	150	2.2%	574	8.3%	2,356	33.9%
3419.02	3,678	3,649	3,295	89.6%	203	5.5%	3	0.1%	78	2.1%	2	0.05%	68	1.8%	29	0.8%	94	2.6%	383	10.4%
3421.01	4,066	3,977	3,469	85.3%	319	7.8%	18	0.4%	81	2.0%	4	0.10%	86	2.1%	89	2.2%	157	3.9%	597	14.7%
3421.02	0	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.00%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
3422	5,430	5,370	4,831	89.0%	416	7.7%	19	0.3%	27	0.5%	3	0.06%	74	1.4%	60	1.1%	131	2.4%	599	11.0%
3701	3,548	3,498	3,412	96.2%	43	1.2%	22	0.6%	2	0.1%	0	0.00%	19	0.5%	50	1.4%	60	1.7%	136	3.8%
3702.01	4,795	4,747	4,608	96.1%	72	1.5%	9	0.2%	32	0.7%	0	0.00%	26	0.5%	48	1.0%	67	1.4%	187	3.9%
Study Area	65,666	64,312	49,573	75.5%	10,855	16.5%	186	0.3%	1,585	2.4%	38	0.06%	2,075	3.2%	1,354	2.1%	3,685	5.6%	16,093	24.5%

Source: US Census Bureau

A public meeting was held at Ben Davis Junior High School on March 14, 2002. The meeting was open to the general public and was attended by approximately 200 people. One of the purposes of the meeting was to identify and include all affected individuals, to provide meaningful access to the public concerning the human health and environmental impacts, and to solicit input from the affected minorities and low-income populations. No concern of a disproportionate burden of impacts on low-income or minority populations was cited by the general public at the public meeting.

No disproportionately high and adverse human health or environmental effects on minority and low-income populations are anticipated with this project because the study area has fewer minority and low-income populations than the county average. In addition, no disproportionate burden of impacts was identified by the public at the public meeting. Furthermore, the project will have beneficial effects on residences in the study area by reducing air pollution and congestion. Impacts from the project will be no more adverse or higher in areas with minority and low-income populations than in other areas. Therefore, it is concluded that disproportionately high and adverse effects are not to be borne by a minority population and a low-income population, nor will the effects be appreciably more severe or greater in magnitude than the adverse effects that will be suffered by non-minority and non low-income populations.

4.6 Economic Impacts

Some strips of property from commercial enterprises will be taken for right-of-way; however, no commercial businesses or industries would be taken. About 10 percent of a pad ready site, which appears to have been abandoned for several years, a small strip of land from a heavy equipment rental business, some land used for storage and part of a railroad spur at the Indy Railway Service Corp., and some long-term parking at the Indianapolis International Airport would likely be taken for the project.

The project will result in minor losses of property tax revenues when strips of right-of-way are purchased. Loss of property taxes has not surfaced as a concern by local officials.

4.7 Joint Development

No joint use development opportunities have been identified.

4.8 Air Quality Impacts

The study area is in attainment for the following air quality criteria pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, and lead. For ozone, the metropolitan area has been designated by the US EPA as a maintenance area. The state has submitted to EPA all required State Implementation Plan (SIP) revisions, and federal program sanctions are not in effect.

The project is included in the *Indianapolis Regional Transportation Improvement Program* (TIP) for 2002 to 2004. The *TIP* and the *Update of the Indianapolis Regional Transportation Plan for 2025* were determined to be in conformity with the requirements of the 1990 Clean Air Act, as amended, (per 40 CFR 51 & 93) by the Federal Highway Administration. The project's design concept and scope is not significantly different from that used in the *Transportation Plan* and *TIP* conformity analysis. Therefore, this project conforms to the transportation-related requirements of the 1990 Clean Air Act.

The project will have a positive effect on air quality. It will decrease congestion and idle time. The result will be an overall higher travel speed. Hydrocarbon emissions decrease as speed increases up to 55 mph, and thus are reduced when congestion is reduced. Emission of oxides of nitrogen are minimized in the speed range between 20 and 35 mph. Carbon monoxide emissions decrease with speed up to 55 mph. Smooth flow and minimal idling are best for minimizing air quality emissions. Therefore, the overall effect of higher speeds and smoother flow is reduced pollutants. The biggest factors will be: 1) fewer slow speed operations; 2) less idle time, and 3) fewer speed changes. Emission factors increase dramatically at low speeds and at idle. When vehicular transportation capacity meets or exceeds demand, vehicles will queue for shorter periods and undergo fewer speed changes.

Without the project, the predicted carbon monoxide (CO) levels would exceed the Environmental Protection Agency's (EPA) standards. With the project, the CO levels would meet EPA's standards. This is confirmed by use of computer software that estimates concentrations of CO at sensitive receptors near roadways. Three receptors representing existing homes were modeled along I-465: west of US 36, between US 36 and 10th Street, and east of 10th Street. In each case values at the first receptor showed the highest CO values and are shown in Table 4-3 (all values are in parts per million - ppm).

Table 4-3
Existing and Predicted Carbon Monoxide Levels

	One-Hour Values (ppm)				Eight-Hour Values (ppm)	
Condition	CAL3QHC Model	Ambient*	Total	Standard	Total**	Standard
2002	8.5	4.8	13.3	35	6.4	9
2010 No-Build	26.8	4.8	31.6	35	15.2	9
2010 Build	6.4	4.8	11.2	35	5.4	9
2026 No-Build	49.8	4.8	54.6	35	26.2	9
2026 Build	7.4	4.8	12.2	35	5.9	9

*The ambient level is a maximum one-hour level obtained from the Indiana Department of Environmental Management's Air Quality Subsystem Quicklook Report for 50 North Illinois, Indianapolis (1999), and may not be the appropriate background level to use for this area. However, no other data are available.
**The eight-hour value is the one-hour value x a meteorological persistency factor of 0.6 and a traffic persistency factor of 0.8.

The MOBILE5A and CAL3QHC computer models were used to generate the results for this analysis. Worst case conditions were modeled, using existing (2002) and projected future (2010 and 2026) traffic volumes and traffic speeds reflective of the anticipated level of traffic service, with and without the project. Future conditions without the project are expected to at a level of service of E/F, with slow to stopped traffic. The result is that CO concentrations would be much worse under no-build conditions and would fall below the one and eight hour standards set by the Environmental Protection Agency (EPA). The build project conditions would be well within the one-hour and eight-hour standards for the year of opening (2010) and the design year (2026).

During construction, air pollution will be created by construction equipment. This will be of limited duration and will cease upon completion of the project.

The Indiana Department of Environmental Management offered comments with respect to air quality through the early coordination process. These are contained in their letter dated January 25, 2002 in Appendix A. They relate to disposal options such as removal, mulching, and burial instead of burning; efforts to minimize fugitive dust emissions; ensuring asphalt paving plants are permitted and operate properly; and, review of structure demolition with respect to asbestos and lead-based paint.

4.9 Noise Impacts

The project is not expected to bring noticeably higher noise levels to most locations along the corridor. The project will not result in any areas substantially exceeding the existing noise level. Substantially exceeding means when predicted traffic noise levels exceed existing noise levels by 15 dBA or more. However, noise levels in many residential locations already approach or exceed established criteria. As the project would expand roadway capacity and shift some traffic closer to sensitive receptors, some noise level increases are likely, and noise mitigation must be considered under federal regulations (23 CFR 772). Potential noise mitigation could include noise barriers/walls or berms.

A noise report is on file at INDOT. A final noise study will be performed during final design. Noise analysis is sensitive to detailed geometry that is only available during final design. Analysis performed for this Environmental Assessment is for planning purposes to understand where noise barriers will be likely reasonable and feasible. Noise barrier implementation will also be subject to a positive response from the public and final design considerations.

Established noise level criteria are used in considering the potential for noise mitigation. Usually the concern is for residential areas, where the applicable criterion is 66 dBA during the loudest hour. This criterion is supplemented by two other primary considerations, reasonableness and feasibility. Feasibility means that it is structurally and acoustically possible to attenuate traffic noise occurring at a receiver by at least 5 dBA. Reasonableness means that INDOT believes abatement of traffic noise impacts is prudent based on consideration of all the following factors:

- The number of benefited receivers, those for whom the mitigation will benefit by at least 5 dBA Leq(h) at the noisiest hour conditions. This number is not necessarily the number of receivers impacted.
- The cost of abatement on a benefited receiver basis and on a project level basis. The Indiana Department of Transportation has set the acceptable cost per benefited receiver range as $20,000 - $30,000. This cost should be arrived at by applying a square footage cost basis on the square footage of the noise barrier. A reasonable square footage cost basis will be determined by the Indiana Department of Transportation.
- The severity of existing and future traffic noise levels. The absolute level and the increase of the future noise are two aspects with which to assess the severity of the noise impacts.
- The timing of development near the project. The state considers it appropriate to give more consideration for development that occurs before initial highway construction.
- The views of noise impacted residents. Potential negative impacts of noise barriers include unsightliness, shortened daylight, poor air circulation, degradation by weather, reduced safety, vandalism, and restriction of access for emergency vehicles.

For planning purposes FHWA's Transportation Noise Model (TNM1) was used to determine the distance at which future noise levels would approach or exceed established noise criteria (66 dBA in residential areas). This was done using future traffic volumes under LOS D conditions, where traffic is heavy, but still moving at near the speed limit (noise levels increase with speed). The TNM indicated that for most of the corridor noise levels exceeding the applicable noise level criterion of 66 dBA (residential areas) would extend about 500 feet from the roadway centerline on either side of the road. A review of residential locations adjacent to the roadway was performed. It considered whether dwelling units had front row (direct) exposure or second row (shielded) exposure. For apartment areas consideration was given to the number of first, second and third floor apartments and whether the apartments were on the side of the building facing I-465. Generally, only first floor apartments facing the highway were considered likely to benefit from noise mitigation.

The result of this analysis found that many locations hold the potential for noise mitigation.

INDOT's Noise Policy states that $30,000 is the maximum acceptable cost per benefited receiver.

If up to $30,000 were expended per benefiting dwelling unit, then analysis finds a potential for:

- Spending $13.6 million for barriers (assumed at this point to be walls ranging from 10 to 18 feet tall and costed as such);
- Extending 47,600 feet, or 9 miles (counting walls on both sides of the freeway); and
- Reducing noise levels by at least 5 dBA for 900 receptors/dwelling units.

At the completion of the final noise analysis conducted during the design phase, a presentation of noise wall locations will be made to the public at a public information meeting, which will be held prior to the start of construction. See Figure 4-1 for areas where noise walls will be and will not be likely reasonable and feasible. Final decisions about specific noise abatement shall be made after public involvement and design engineering concerns have been addressed.

During construction, noise will be generated by construction equipment. This will be of limited duration and will cease upon completion of the project. The contractor shall be required to make every effort reasonable to minimize noise by selecting construction methods, work-hour controls, muffler maintenance, selection of haul routes, and enforcement of operations in ways that are considerate of residences. Local residents should be provided with information on the expected type and duration of construction.

4.10 Energy Impacts

The construction of the Preferred Alternative will reduce regional transportation operating energy. These savings should outweigh construction energy requirements over the life of the project, thus resulting in a net savings in energy use over the long term. The new alignment will be the same distance as the current route, 11 miles, however, vehicle speed changes and idle time will be reduced.

4.11 Water Quality Impacts

This project should have minimal impacts on the quality of surface or groundwater, or the level of the groundwater table. The project will not result in waterborne roadway pollutants being discharged at new locations. There are well defined ditches on both sides of I-465. They will either be relocated 25

to 30 feet away from the roadway, or routed through an enclosed drainage or culvert system. Construction specifications include temporary and permanent erosion controls, and controls on the use, storage, and disposal of construction materials to protect water quality. The area near the project

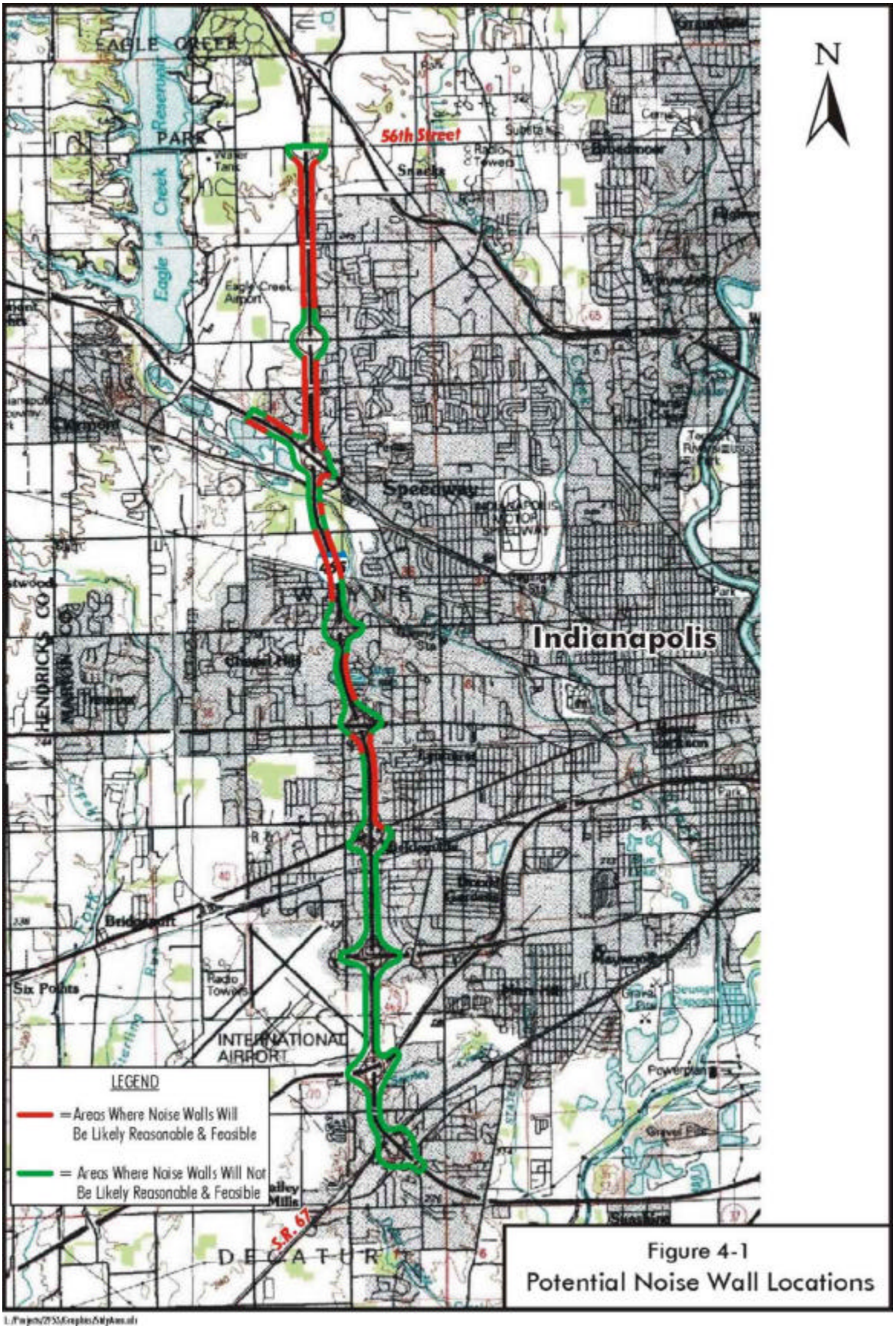


Figure 4-1
Potential Noise Wall Locations

is drained by an open ditch system which outlets into tributaries of Big Eagle Creek, which drains into White River, which is a tributary of the Wabash River.

Early coordination with the Indiana Department of Environmental Management (IDEM), prompted a number of comments regarding potential mitigation measures to preserve water quality. These are contained in their letter dated January 25, 2002 in Appendix A and are shown in Chapter 5. In summary, they outline needs for:

- Limiting physical disturbance of stream and riparian vegetation, especially large trees overhanging any affected waterbodies to that absolutely necessary to complete the project.
- Using appropriate structures and techniques during and after construction to minimize soil erosion: straw bale barriers, silt fencing, or earthen berms.
- Section 401 and 404 permits from IDEM and the US Army Corps of Engineers, respectively, if dredging and filling in wetlands and in waters of the State of Indiana occurs;
- A Rule 5 Storm Water Permit from the Office of Water Quality for construction;
- Approval from the IDNR, Division of Water, for construction in floodways; and,
- Consultation with IDNR, Division of Fish and Wildlife regarding potential adverse impacts on fish and botanical resources.

4.12 Permits

An "individual" Department of the Army, Corps of Engineers permit under Section 404 of the Clean Water Act{xe "Clean Water Act"} will be required (see Appendix C for the plan for fill materials based on INDOT's standard form).

Section 401 water quality certification{xe "401 water quality certification"} will be required from the IDEM. This certification is required by the Corps of Engineers{xe "Corps of Engineers"} prior to Corps issuance of the Section 404 permit.

A Rule 5 Storm Water Permit for construction activity that disturbs five acres or more of total land area will be required from the IDEM (see letter in Appendix A dated January 25, 2002).

Pursuant to the Flood Control Act (IC 14-28-1), an IDNR Construction in a Floodway Permit will be required, because the new route will occupy the floodplain of Farley/Topp Creek, Big Eagle Creek, Mud Run, and Dry Run {xe "Little Honey Creek"}{xe "Little Honey Creek"}.

4.13 Water Body Modification and Wildlife Impacts

The project will not result in the relocation of the channel of any watercourse.

Data from the Indiana Department of Natural Resource's Natural Heritage Program have been checked and, to date, no plant or animal species listed as state- or federally-threatened, endangered, or rare have been reported to occur in the project vicinity (see letter dated March 21, 2002 in Appendix A).

The project will be located in a developed urban area. Any land used will be from existing right-of-way or from the frontage of residential, commercial, institutional, or light industrial uses.

Possible mammals in the area include: deer, raccoons, skunks, opossums, fox squirrels, eastern cottontail rabbits, mice, chipmunks, voles, and woodchucks. In addition to mammals, habitat has found to be suitable for common songbirds, owls, thrushes, vireos, woodpeckers, sparrows, blackbirds, and cowbirds.

4.14 Impacts to Federally Threatened and/or Endangered Species

This project is within the range of the federally endangered Indiana bat (Myotis sodalis) and the federally threatened bald eagle (Haliaeetus leucocephalus). No suitable habitat for either of these species is located within the project area. This project will not affect any federally threatened or endangered species.

The USF&WS indicated the project is not likely to adversely affect any federally threatened or endangered species. They stated "This precludes the need for further consultation on this project as required under Section 7 of the Endanger Species Act of 1973, as amended." (see letter dated February 13, 2002 in Appendix A).

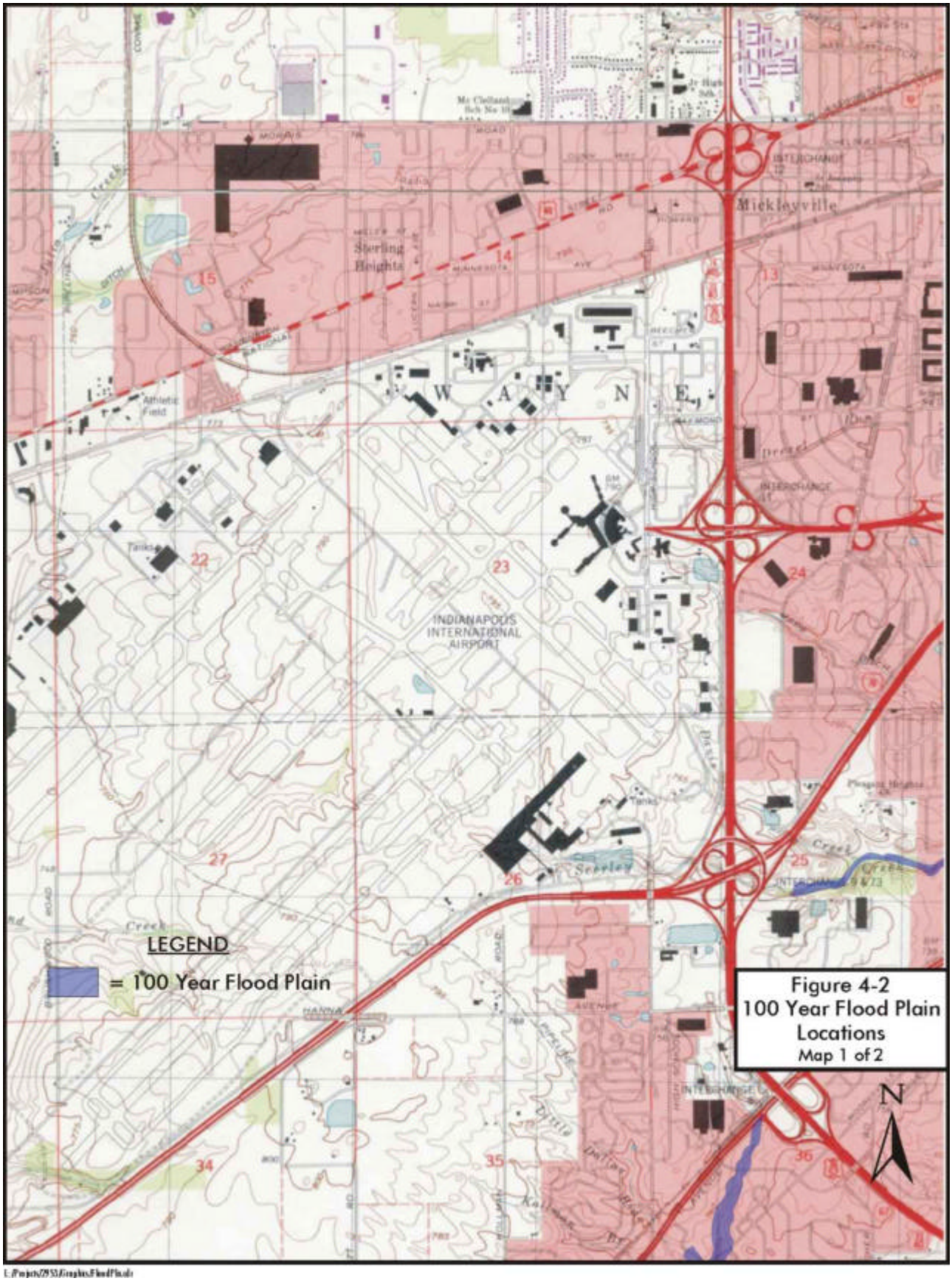
4.15 Floodway and Floodplain Impacts

Floodway analysis has been performed consistent with 23 CFR 650 and Executive Order 11998{xe "Executive Order 11990"}. Big Eagle Creek{ XE "Little Pigeon Creek" } is a regulatory floodway where it is crossed by the alignment. The right-of-way at the bridge over Big Eagle Creek will remain the same; however, the bridge will be widened. The alignment will continue to encroach on the floodway fringe (i.e., 100-year floodplain) of Farley/Topp Creek, Big Eagle Creek, Mud Run, and Dry Run.

Figure 4-2 shows the approximate limits of the 100-year floodplain (the floodway and floodway fringe). The map is based on the Federal Emergency Management Agency's maps of Marion County. Risk assessment sheets have been filled out for four locations (Appendix B): 1) Farley/Topp Creek, 2) Big Eagle Creek, 3) Mud Run, {xe "Honey Creek"}and 4) Dry Run{xe "Little Honey Creek"}.

Floodplain analysis must examine whether a project creates or increases a hazard to people and/or property, and whether there is an impact on natural and beneficial floodplain values{xe "floodplain values"}. These values include: fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge.

There are homes located within the base floodplain within 300 meters (1,000 feet) of the encroachments. All new structures will have effective capacities such that backwater surface elevations are not expected to significantly increase. Thus, no significant hazard to people or property is expected to result from the project.


Mickleyville
Sterling Heights
INDIANAPOLIS INTERNATIONAL AIRPORT
LEGEND
= 100 Year Flood Plain
Figure 4-2
100 Year Flood Plain Locations
Map 1 of 2
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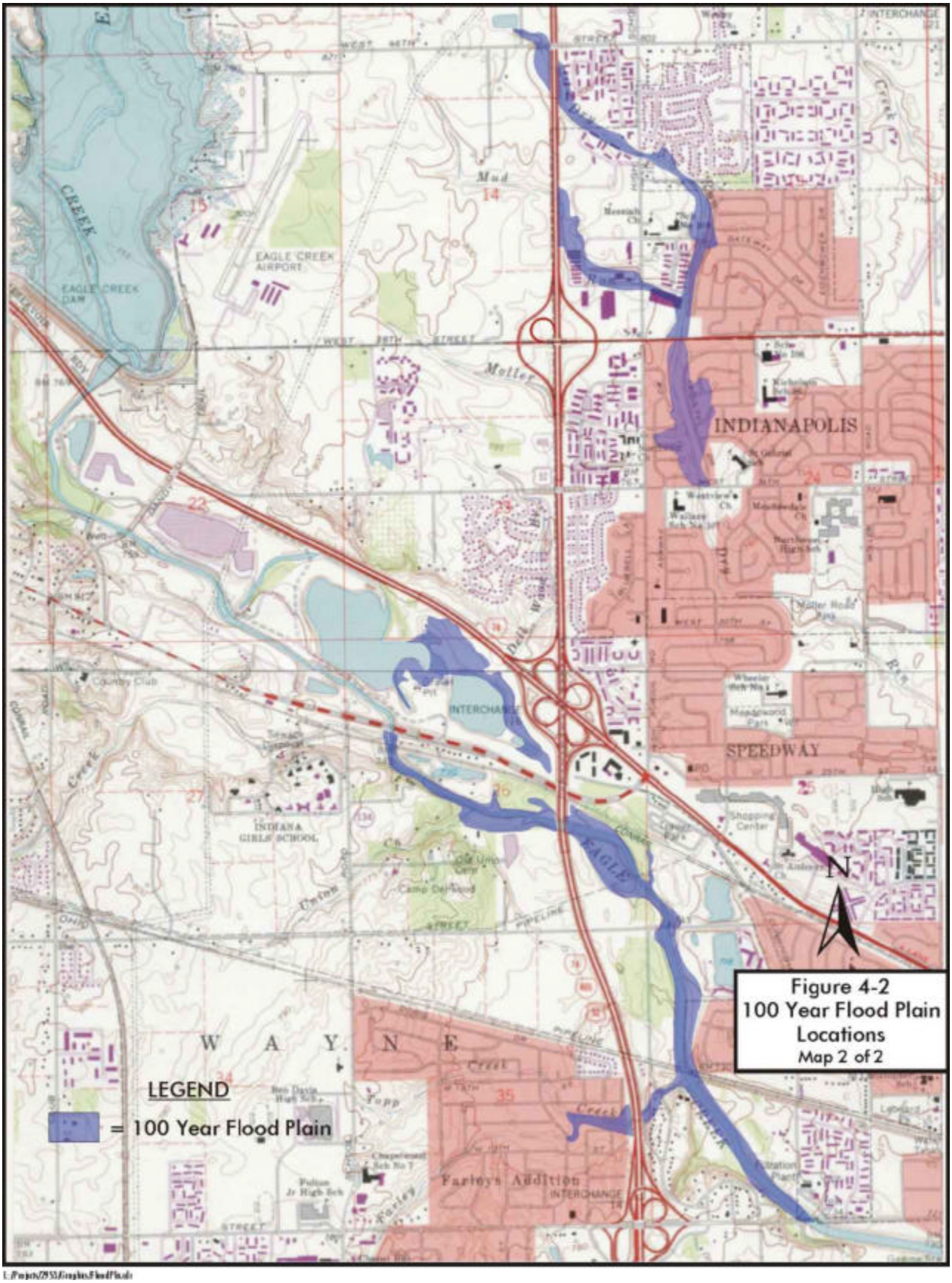


Figure 4-2
100 Year Flood Plain Locations
Map 2 of 2

There will be no significant impacts on natural and beneficial floodplain values; there will be no significant change in flood risks; and, there will be no significant increase in potential for interruption or termination of emergency service or emergency evacuation routes; therefore, it has been determined that this encroachment is not significant. Structures will be designed to prevent the base floodplain elevation from rising more than 1/10 of a foot.

A hydraulic design study that addresses various structure size alternatives will be completed during the preliminary design phase. A summary of this study will be included with the Field Check Plans and also in the Design Summary.

4.16 Impacts Upon Wild and Scenic Rivers

At present, there are no federally-designated Wild and Scenic Rivers located in Indiana.

4.17 Contaminated Sites

A Project Area Contamination Survey[3] was conducted to investigate parcels of property potentially affected by the project for the presence of environmental contamination and to determine whether further investigation or remediation is needed.

The assessment for contamination included: drive-by field reconnaissance; review of federal and state environmental databases; and, review of selected historical land use records. The survey did not include any on-site inspections of properties or interviews with owners or occupants. The survey assessed commercial and industrial properties along the corridor. Residential and institutional properties were not covered as there were no specific observations or reported indications of contamination. Sites are summarized in Table 4-4. Locations are shown on Figure 4-3. A summary of the analysis from the Project Area Contamination Survey follows.

Review of federal environmental databases did not identify any listed active Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or National Priorities List (NPL) (Superfund) sites within approximately one mile of the project corridor. There are two CERCLIS sites that are listed as "No Further Remedial Actions Planned" (NFRAP) within ½ mile of the corridor. Seven Resource Conservation and Recovery Act (RCRA) sites that treat, store and/or dispose (TSD) of hazardous materials or are large quantity generators (LQGs) of hazardous waste were identified within the project corridor.

Twenty-nine Underground Storage Tank (UST) sites were identified within the project corridor including sites with operating USTs and sites that have removed USTs. Twenty-one Leaking Underground Storage Tank (LUST) sites were identified including active and inactive cases. Impacts from area LUST sites include soil and groundwater contamination.

Several facilities within the project corridor have had documented spills of various materials. Several spills involving jet fuel have occurred at the Indianapolis International Airport.

The following facilities/sites appear to represent the most concern for the I-465 improvement project based on available records, proximity to the project or on observed site conditions: Indy Railway

[3] "Project Area Contamination Survey," The Corradino Group, February 2002.

Table 4-4
Summary of Environmental Records for I-465 Sites

SID[1] No.	Site Name (Former Name or Use)	Address or Location	Federal Records				State Records			
			CERCLA[2]	RCRA[3]	ERNS[4]	FINDS[5]	SPILL[6]	UST[7]	LUST[8]	Other[9]
1	Closed (Marathon Oil Co Unit 2209)?	4715 Kentucky Ave				X		X	X	
2	Swifty Service Station #238	4751 Kentucky Ave				X		X	X	
3	International Aerospace Tubes/Sure Start	4760 Kentucky Ave		X		X	X			X
4	Indy Railway Service Corp.	6111 W Hanna Ave								X
5	Cra-Wal	4001 S High School Rd				X				
6	Alamo Rent-A-Car	3730 S High School Rd				X		X		
7	Federal Express Corp.	3502 S High School Rd		X	X	X		X	X	
8	Vincent Metals	3334 Rand Rd				X		X		
9	Tynan Equipment Co.	5926 Stockberger				X		X		
10	Allison Transmission	5601 Fortune Circle S		X						
11	Lilly Aviation Facility	2800 S High School Rd				X		X		
12	Indiana Eby-Brown Corp.	5820 Fortune Cir W						X	X	
13	Speedway International Trucks	5730 Fortune Cir W				X		X	X	
14	Amr Combs International, Inc.	2600-40 S High School Rd				X	X	X	X	
15	Hertz Indianapolis	2621 S High School Rd				X		X	X	
16	Holiday Inn Airport	2501 S High School Rd				X		X	X	
17	Indianapolis Airport Authority	2500 S High School Rd			X	X	X	X	X	
18	Cardiovascular Laser Systems	2431 Directors Row		X						
19	Power Train Services, Inc.	2334 Production Dr	X	X		X				
20	Detrex Corp. Solvent & Env. Serv.	2263 Distributors Dr	X	X	X	X	X			
21	Avis Rent A Car	6050 W Raymond St						X	X	
22	National Rent A Car	6100 W Raymond St				X		X		
23	Amoco Station	Raymond@ S High School								
24	Autotrim Design (AB Dick)	2101 Directors Row				X	X			X
25	Truegreen Chemlawn	2121 Directors Row					X		X	
26	Briggs Transportation Co.	5751 W Dividend Dr		X		X				
27	Budget Rent A Car	6150 W Minnesota St				X		X	X	
28	Thrifty Car Rental	6175 W Minnesota St						X	X	
29	Carl Ritchie	6200 W Washington				X		X	X	
30	McQuiks 9616	6240 W Washington				X		X	X	
31	Johnsons Bigfoot (Sunoco Station)	6302 W Washington				X		X	X	
32	ACE Rent A Car, Inc.	5806 W Washington				X	X	X	X	
33	Speedway 5351	6302 Rockville Rd				X		X	X	
34	Citco	14 Beachway Dr								X
35	Port O Call	11 Beachway Dr				X				X
36	Lakeview Christian Academy	47 Beachway Dr				X				
37	Wayne Twp Fire Dept., Inc.	700 N High School Rd				X		X		
38	Shell Dealer Indpls W 10th/Glen Arm	6402 W 10th St				X		X	X	
39	Amoco	6315 Crawfordsville Rd				X		X		
40	Shell Service Station	2540 N High School Rd				X		X		
41	Sunoco Service Station/Bigfoot 072	2610 N High School Rd				X		X		
42	Shell Service Station	3702 N High School Rd						X		
43	Amoco (Jacksons Standard)	6279 W 38th						X	X	
44	Speedway/Sm #5507	6315 W 56th St							X	

[1]SID No. - Site Identification Number
[2]CERCLA - Comprehensive Environmental Response, Compensation and Liability Act (Superfund), includes National Priority Listed (NPL) sites. Source: US EPA.
[3]RCRA - Resource Conservation and Recovery Act, includes permitted hazardous waste treatment, storage and/or disposal (TSD) facilities and waste generators, which are defined as conditionally exempt generators (CEG), small quantity generators (SQG), large quantity generators (LQG), non-handlers (NH), and former generators that are now closed (Closed); NR - Not reported. Source: US EPA and IDEM.Only TSDs and LQGs are listed in table.
[4]ERNS - Emergency Response Notification System; includes spill incidents reported to the US Coast Guard; Source: US EPA.
[5]FINDS - Facility Identification Notification Data System; includes facility information for all EPA-regulated facilities; Source: US EPA.
[6]Indiana Spill - Contains reported spills of hazardous and petroleum materials; Source: IDEM.
[7]UST - Underground storage tank; registered tanks that are currently operating or that have been taken out of service (closed) or removed. Source: IDEM.
[8]LUST - Leaking underground storage tank; includes active case and closed cases; Source: IDEM.
[9]Other - These sites were included in other state databases or were identified as potentially contaminated based on observed conditions or activities.

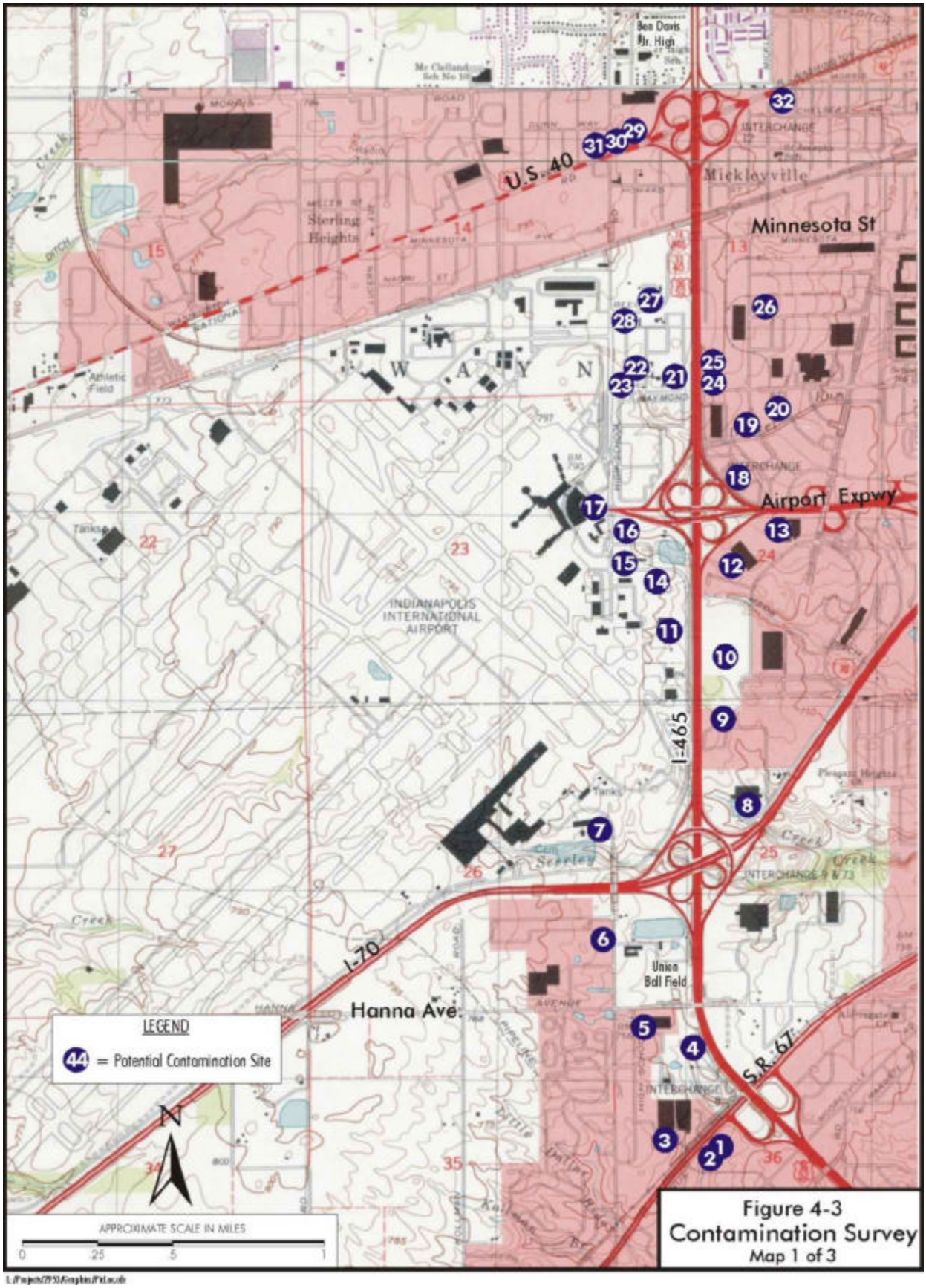
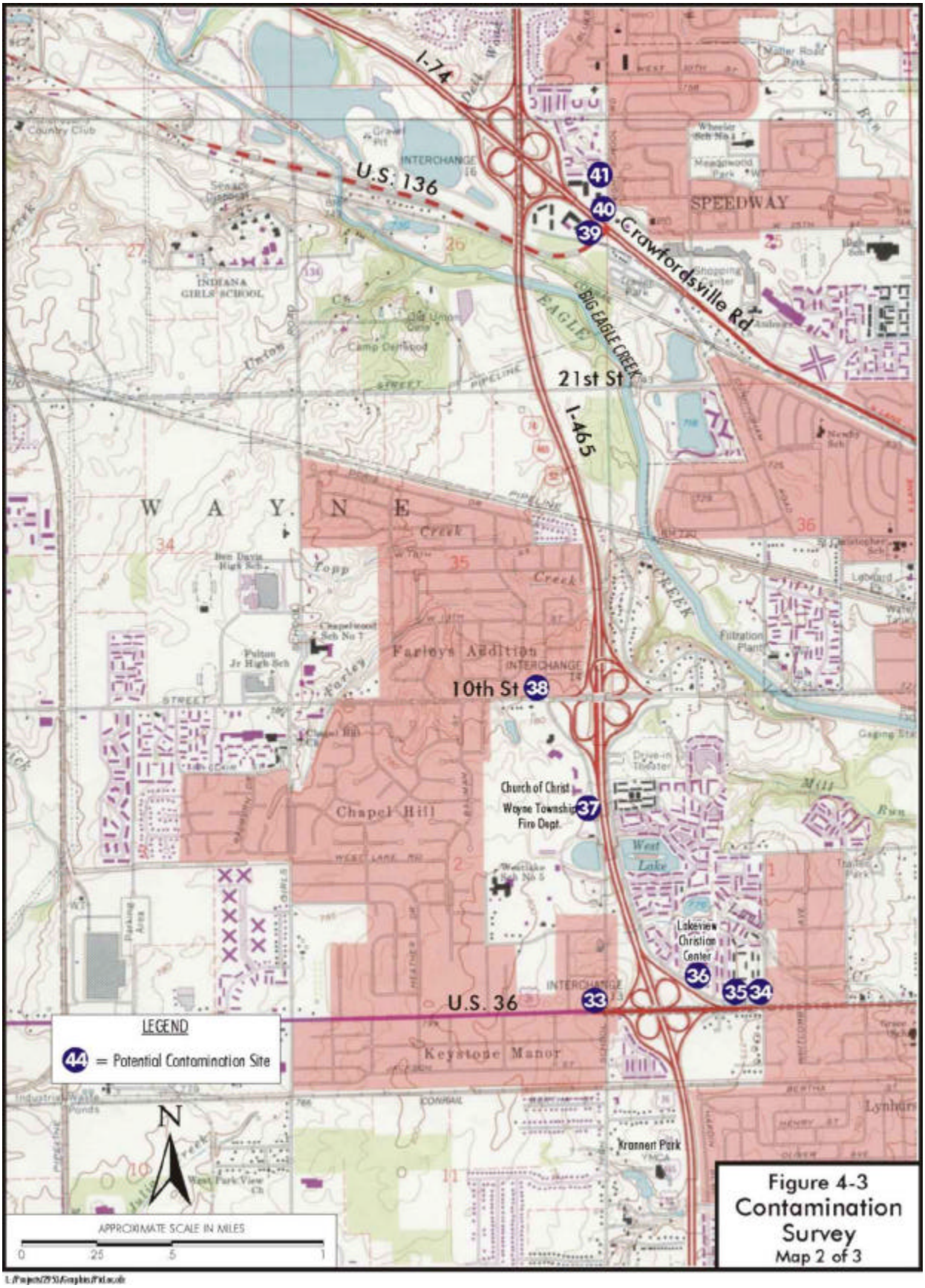


Figure 4-3
Contamination Survey
Map 1 of 3


I-74
U.S. 136
Crawfordsville Rd
SPEEDWAY
BIG EAGLE CREEK
21st St
I-465
W A Y N E
Farleys Addition
10th St
Chapel Hill
Church of Christ
Wayne Township
Fire Dept.
West Lake
Lakeview Christian Center
U.S. 36
Keystone Manor
Krannert Park
INDIANA GIRLS' SCHOOL
Camp Dellwood
Ben Davis High Sch
Fulton Jr High Sch
Chapelwood Sch No 7
Westlake Sch No 5
Meadowood Park
Miller Road Park
Filtration Plant
Lynhurst
41
40
39
38
37
36
35
34
33
LEGEND
44 = Potential Contamination Site
N
APPROXIMATE SCALE IN MILES
0 .25 .5 1
Figure 4-3
Contamination Survey
Map 2 of 3

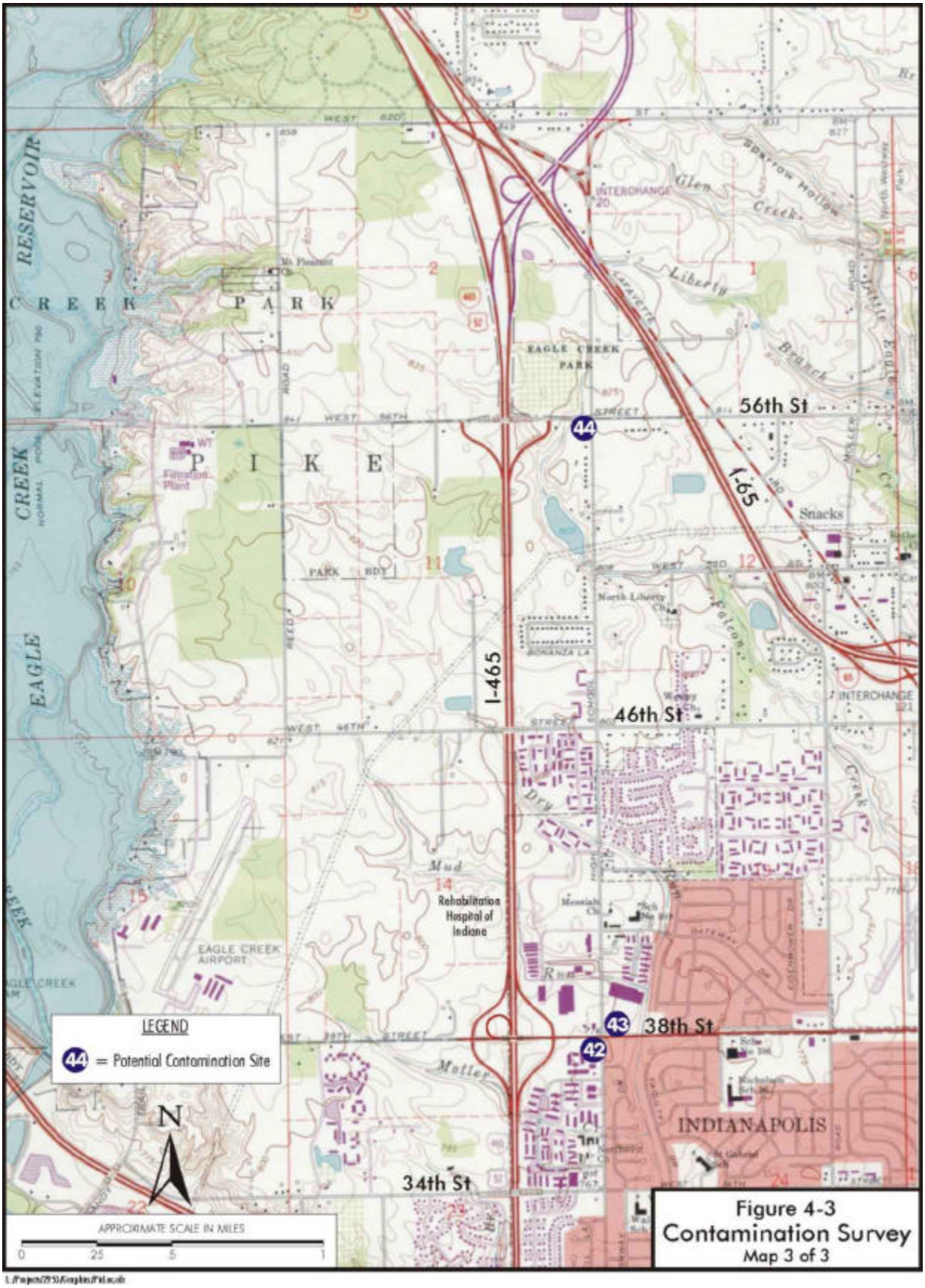


Figure 4-3
Contamination Survey
Map 3 of 3

Service Corp. (site 4), Detrex Corp (site 20), Autotrim Design (A.B. Dick) (site 24), and Truegreen Chemlawn (site 25).

In summary, leaking underground storage tank sites appear to be the most common potential contamination problem within the study area. Additionally, some of the industrial sites along I-465, which may or may not be listed in a state or federal environmental database, could also affect the project because of the use of hazardous materials in an era prior to modern environmental laws and regulations. As the project moves forward, and the new right-of-way requirements become fully defined, additional investigation for contamination should be conducted.

4.18 Wetlands

A Preliminary Wetlands Investigation Report[4] on file at INDOT finds that 11 wetland areas located within the project right-of-way could be directly impacted by the project and will require mitigation (see Figure 4-4). The approximate acreage of direct wetland impacts is 2.77 acres. These will be mitigated in accordance with the Wetlands Memorandum of Understanding (MOU) agreed to January 28, 1991, by INDOT, the US Fish and Wildlife Service (USF&WS), and IDNR. That MOU established replacement ratios for different types of wetlands. Using those replacement ratios (2 or 3:1), the number of replacement wetlands should be approximately 5.5 to 8.3 acres. Information about wetland impacts is summarized in Table 4-5. The majority of the wetlands impacted are less than one acre and are associated with intermittent streams or ditches and are of medium or low quality. The primary function of these wetlands is stormwater conveyance and storage. These wetlands also provide urban wildlife habitat.

The project crosses Big Eagle Creek, wetland ID W11; however, this wetland is not anticipated to be impacted. Man-made ponds, like wetland W2, are not currently recognized as jurisdictional wetlands by the Louisville District Corps of Engineers. West Lake, which is between US 36 and 10th Street, is not expected to be impacted by the project.

Wetlands were identified for the recommended alternative using the Corps of Engineers Wetland Delineation Manual (January 1987) and Corps guidance documents and regulations. Jurisdictional determinations for other "waters of the United States" were made based on definitions and guidance found in 33 CFR 328.3, Corps Regulatory Guidance Letters. The "Classification of Wetlands and Deepwater Habitat of the United States," (US Department of Interior, Fish and Wildlife Service, December 1979) was used to classify and describe wetland areas. National Wetland Inventory maps prepared by USF&WS were also consulted.

Wetlands were a primary consideration in the selection of the Recommended Location Alternative identified in the *Engineer's Report*. All potential alternatives affected wetlands. The No Action Alternative would take no wetlands, but does not meet the purpose and need of the project. Based on the planning level estimates in the *Engineer's Report*, the preferred alternative avoids wetlands to the extent practicable. Where avoidance is not possible, effects have been minimized and will be mitigated.

[4] "Preliminary Wetlands Investigation Report," The Corradino Group, June 2002.

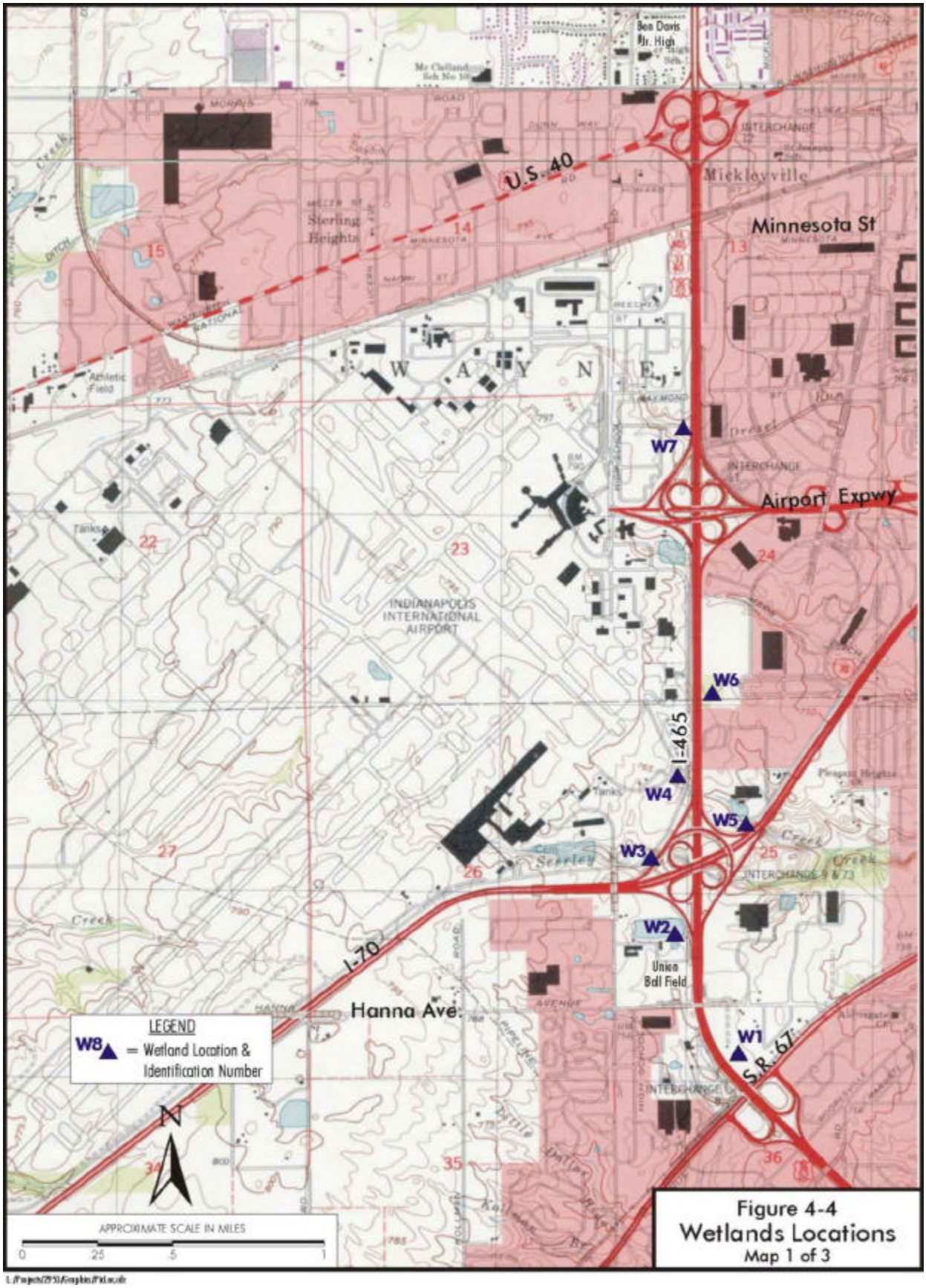


Figure 4-4
Wetlands Locations
Map 1 of 3

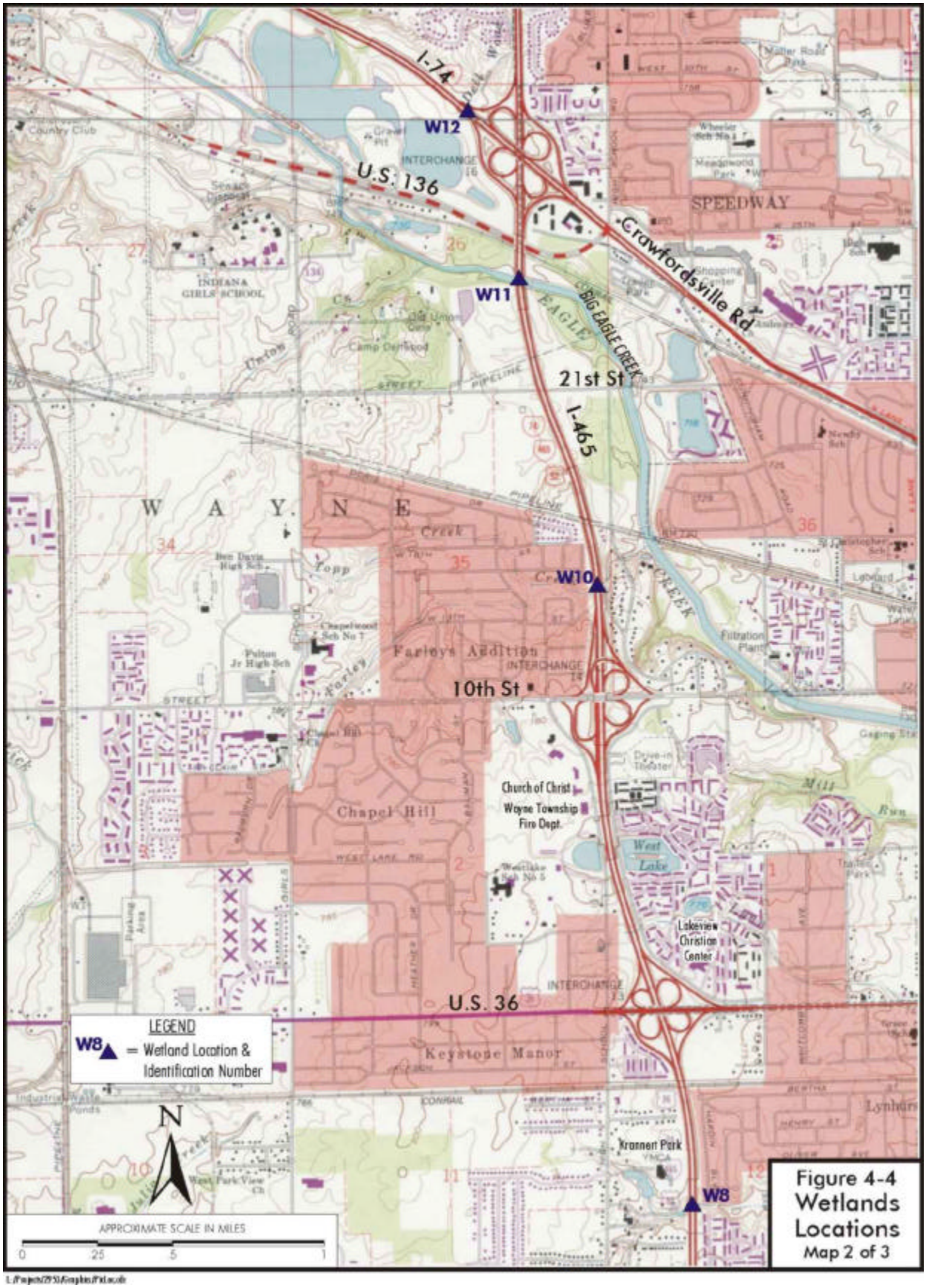


Figure 4-4
Wetlands Locations
Map 2 of 3

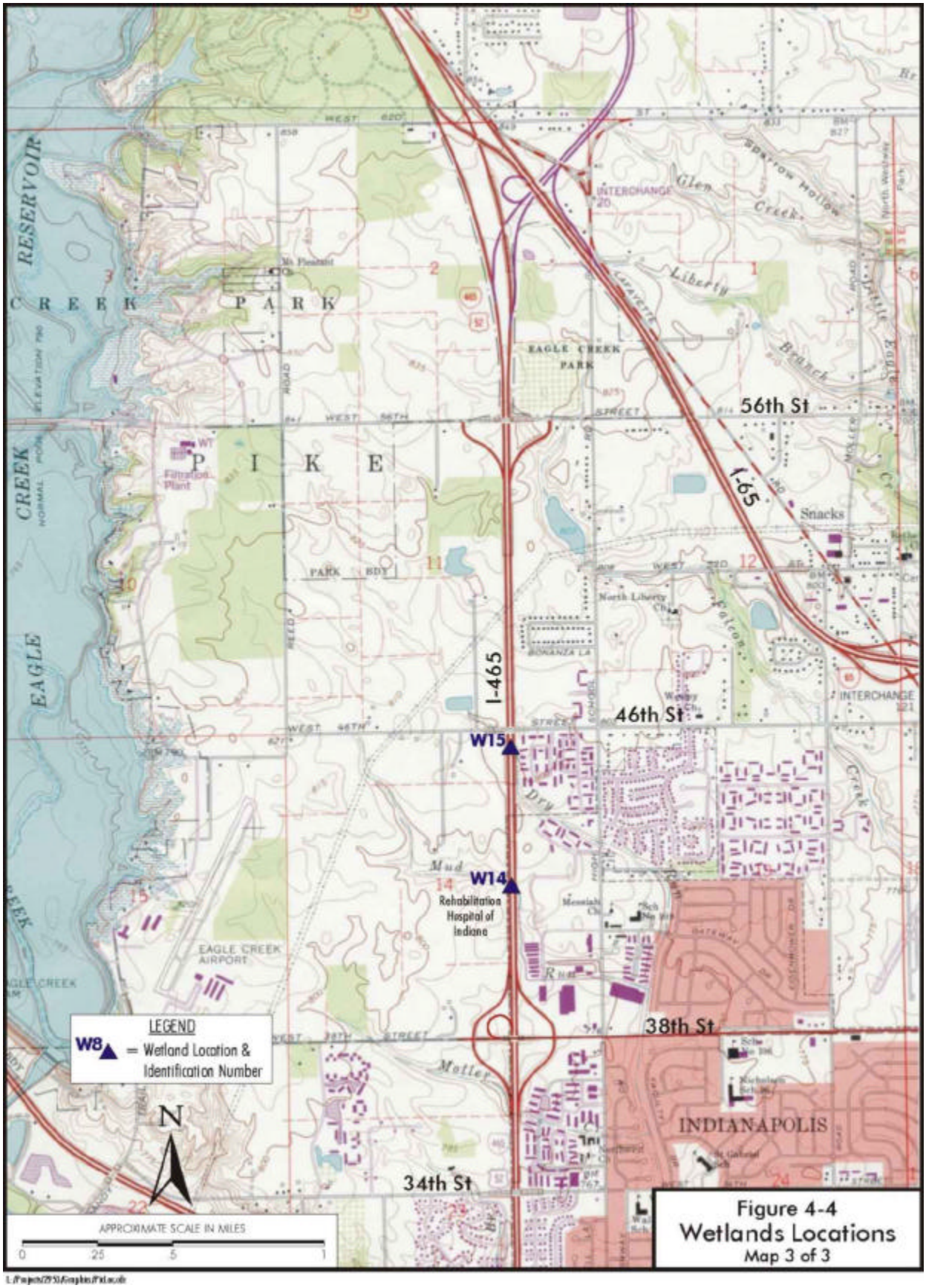


Figure 4-4
Wetlands Locations
Map 3 of 3

Table 4-5
Summary of Wetland Characteristics

Wetland ID	Wetland Community Classification[1]	Priority Class[2]	Regulated?[3]	Estimated Impact by Type (Acres)					Description
				PFO	PEM	POW	PEM/PSS	Total	
W1	PFO	3	Y	0.34				0.34	Forested wetlands;ash, elm, dogwood.
W2	POW	3	N			5.65		5.65	Man-made pond; 1.38 acres in right-of-way.
W3	PEM	3	Y		0.38			0.38	Seerley Creek rechannelized; cattails are dominant.
W4	PEM	3	Y		0.03			0.03	Davis Creek rechannelized at edge of right-of-way; cattails and grasses along fringes.
W5	PEM/PSS	3	Y				0.03	0.03	Shrub/scrub and emergent wetlands;ash, elm, dogwood.
W6	PEM/PSS	3	Y				0.04	0.04	Drainage ditch; ash, cattails, grasses.
W7	PEM	3	Y		0.03			0.03	Drexel Run rechannelized; cattails & grasses.
W8	PEM/PSS	3	Y				0.06	0.06	Neeld Ditch; ash, willow, honeysuckle, grasses.
W10	PEM/PSS	3	Y				0.07	0.07	Farley-Topp Creek:cherry, ash, oak, honeysuckle grasses.
W11	PEM/POW	1	Y					0.00	Eagle Creek- No impact anticipated.
W12	PEM/PSS	3	Y				0.18	0.18	Dellwood Creek at I-74; willow, privot, boxelder, jewellweed.
W14	PEM/PSS	2	Y				1.08	1.08	Mud Run, channelized along road; ash, cottonwood, dogwood, buckeye, boxelder, mayapple, creeper.
W15	PEM	3	Y		0.53			0.53	Dry Run, channelized along road;cattails, Juncus, grasses.

[1] PFO - Palustrine Forested; PEM - Palustrine Emergent; PSS - Palustrine Shrub-Scrub; POW - Palustrine Open-Water.

[2] Priority classes applied to this project are as follows: 1 - highest quality; 2 - medium quality; and 3 - lowest quality.

[3] Preliminary determination. Final determinations will be made by COE and IDEM.

Only Practicable Alternative Finding

This document has been prepared in compliance with the provisions of executive order 11990 "protection of wetlands." Based on the above considerations, it has been determined that there is no practicable alternative to the proposed new construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

4.19 Visual Impacts

Visual impacts can be considered in terms of "view of the road" and "view from the road." Over most of the alignment the view of the road would remain unchanged as any widening will occur within or along the existing right-of-way and not on new alignments. There would be a new flyover ramp at the I-74 interchange. Currently there are no flyover ramps at this interchange.

The "view from the road" would also remain unchanged. Over the corridor the setting would remain mostly institutional (airport), residential, and commercial.

4.20 Construction Impacts and Considerations

There would be temporary traffic, noise, air quality, and water quality impacts during the construction period.

Standard INDOT-specified measures will be used to control erosion during construction. Also, a April 26, 1994 memorandum from the Office of the President directs that for federal actions agencies "use regional native plants for landscaping; design, use, or promote construction practices that minimize adverse effects on the natural habitat; and implement water-efficient practices, such as the siting of plants in a manner that conserves water and controls soil erosion."

Noise levels of construction equipment are regulated by the US Environmental Protection Agency. Worker exposure to noise is controlled by the Occupational Health and Safety Administration. Together these help mitigate construction noise. Contractors would have to conform to local noise ordinances. Contractors would also be subject to proper disposal of waste construction debris. This would include proper treatment of potential asbestos-containing material.

Contractors will be required to observe the requirements of 326 IAC 6-4 Fugitive Dust Rule and 8-5 Asphalt Paving Rule, which ensure that asphalt paving plants are permitted and operate properly.

4.21 Historical and Archaeological Preservation

For purposes of analysis cultural resources are usually categorized as above ground or below ground. Below ground resources are generally described as archaeological resources and may have prehistoric or historic components, or both. Prehistoric components refer to cultural materials from the time prior to European contact. Historic components include old building foundations, artifacts, and the like, from early settlement. Above ground resources generally refer to standing structures whose value may derive from architectural elements or from importance to history. Cultural resources have been evaluated for potential eligibility for the *National Register of Historic Places*. Sites on or eligible for the *National Register* are afforded protection under federal law, which, simply stated, requires that such sites not be used if there is a prudent and feasible alternative that avoids such use.

Cultural resource analysis begins with the identification of an Area of Potential Effect (APE). The APE was approved by FHWA on November 28, 2001. Next, potential consulting parties are contacted. These are individuals and organizations that may have an interest in the effects of the project on cultural resources. Then properties are identified that are on or potentially eligible for the *National Register* and a determination is made in conjunction with the Federal Highway Administration and State Historic Preservation Office whether there are adverse effects on any such properties.

The Federal Highway Administration made their findings and determinations for the APE, eligibility for the National Register, and effects on August 28, 2002 (See Appendix D for FHWA's Section 106 Findings and Determinations). They found that there are no known eligible National Register properties, buildings, structures, or sites within the confines of the APE.

4.21.1 Archaeological Sites

The area to be impacted by this project is urban in nature and has been previously disturbed. Archaeological Resource Management Services at Ball State University performed an archaeological records review. They found three archaeological sites within one mile of the proposed project area. None of these sites are located within the area of potential effect. Due to the land in the area already being disturbed Archaeological Resource Management Services recommended no further archaeological assessment for the project area.

The State Historic Preservation Officer (SHPO) has stated "…most of the project area has already been disturbed by modern construction. However, some of the open land, as well as locations to be used for borrow or disposal, may not have been disturbed. Given the aforementioned factors, a reconnaissance level archaeological survey will be required of all portions of the project area that have not been previously disturbed by urban construction." (See letter dated March 20, 2002 in Appendix A.)

Following the SHPO's March 20, 2002 letter, the archaeological records review from Archaeological Resource Management Services from Ball State University was forwarded to the SHPO. Upon the SHPO's review of this report, the SHPO stated: "Based upon the documentation available at the Indiana SHPO, we have not identified any historic buildings, structures, districts, objects, or archaeological resources listed in or eligible for inclusion in the National Register within the probable area of potential effects. This identification is subject to the following condition: 1) the project activities remain within areas disturbed by previous construction." (See letter dated May 8, 2002 in Appendix A.)

If any archaeological artifacts or human remains are uncovered during construction, demolition, or earthmoving activities, the discovery will be reported to the Department of Natural Resources within two business days and the Advisory Council on Historic Preservation will be contacted.

4.21.2 Above Ground Resources

The *National Register of Historic Places* and the *State Register of Historic Sites and Structures* were reviewed for resources in the study corridor. No sites on the *National Register of Historic Places* or the *State Register of Historic Sites and Structures* were found.

Additional information was available from the *Interim Reports for Wayne Township, Decatur Township, and Pike Township in Marion County*.[5] No sites listed as "outstanding" or as "notable" were found within the Area of Potential Effect (APE).

A rating of "outstanding" means that the property has enough historic or architectural significance that it is already listed or should be considered for listing in the *National Register of Historic Places*. A rating of "notable" means that the property did not merit an "outstanding" rating, but is still above average in importance. Further research or investigation may reveal that the property could be eligible for the *National Register*.

The State Historic Preservation Officer (SHPO) has stated, " Based upon the documentation available at DHPA, we have not identified any historic buildings, structures, districts, or objects listed in or eligible for inclusion in the National Register within the probable area of potential effects." (See letter dated March 20, 2002 in Appendix A.)

A public meeting was held on March 14, 2002 at Ben Davis Junior High School. Approximately 200 people attended the meeting. There were no comments from the public identifying potential historic resources that would be affected by the project.

The consulting parties were sent FHWA's finding of no historic properties affected. Two consulting parties responded. Historic Indianapolis, Inc. stated that it is their position "that no historic properties are adversely affected by the proposed improvements to I-465." (See e-mail response dated October 14, 2002 in Appendix A). The SHPO concurred with the finding that there are no historic resources within the area of potential effects. (See letter dated October 18, 2002 in Appendix A).

4.22 Section 4(f) Impacts

This project will have no Section 4(f) impacts. No land from a publicly-owned park, recreation area, wildlife and waterfowl refuge, or significant historic or archaeological site will be required. Eagle Creek Park and Kranhert Park are the closest 4(f) properties to the project. Both of these will be avoided by the project. See Figure 1-1 for the locations of these parks.

4.23 Section 6(f) Impacts

This project will have no Section 6(f) impacts. No land that was acquired, improved, or developed with Land and Water Conservation Funds will be required.

4.24 The Relationship Between Local Short-Term Uses of Man's Environment and the Maintenance And Enhancement of Long-Term Productivity

Improvements to I-465 will cause disruption in the area for the short-term and will require the use and commitment of natural, physical, human, and fiscal resources including fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material. However, improvements

[5] *Wayne Township, Decatur Township, and Pike Township, Marion County Interim Reports, Indiana Historic Sites and Structures Inventory*, Historic Landmarks Foundation of Indiana, 1993, 1992, and 1994. Interim Reports are surveys of historic structures within a county. Ratings used in the Interim Reports include Outstanding, Notable, Contributing, and Non-Contributing.

will save travel time, reduce harmful emissions, and reduce crashes, thus increasing long-term productivity. Improvements to the corridor are consistent with the region's long-term transportation and land use planning.

4.25 Irreversible and Irretrievable Commitments of Resources Which Will Be Involved in the Proposed Action

Implementation of the proposed action involves the commitment of a range of natural, physical, human, and fiscal resources. Land used in the construction of the proposed facility is considered an irreversible commitment in terms of practical economics.

Considerable amounts of fossil fuels, labor, and highway construction materials such as cement, aggregate, and bituminous material will be expended. Additionally, large amounts of labor and natural resources are used in the fabrication and the preparation of construction materials. These materials are generally not retrievable. However, they are not in short supply and their use will not have an adverse effect upon continued availability of these resources. Any construction will also require a substantial one-time expenditure of both state and federal funds which are not retrievable.

The commitment of these resources is based on the concept that residents in the immediate area, state, and region will benefit by the improved quality of the transportation system. These benefits will consist of improved accessibility and safety, savings in time, reduced air pollution, and greater availability of quality services which are anticipated to outweigh the commitment of these resources.